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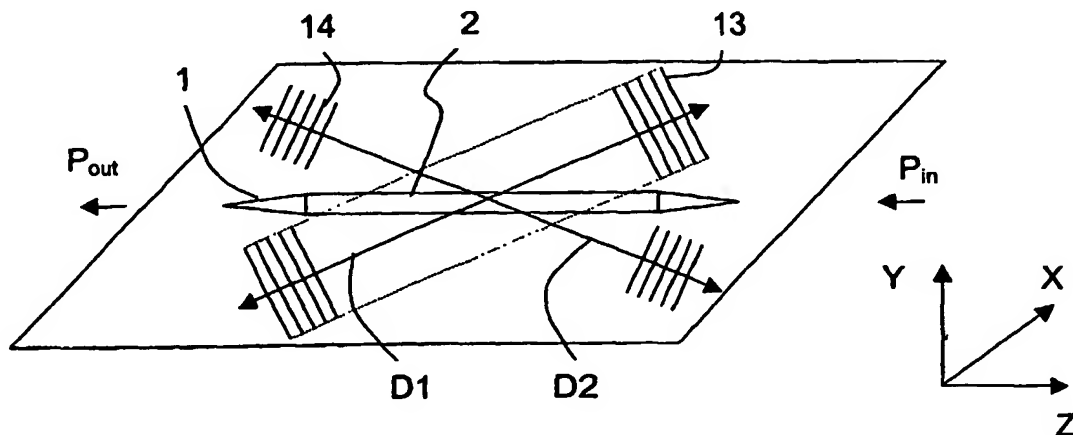
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(54) Title: SEMICONDUCTOR OPTICAL AMPLIFIER WITH LATERAL AND DISTRIBUTED GAIN STABILISATION



(57) Abstract: A stabilised gain semiconductor optical amplifier (CG-SOA) includes an active waveguide (1) comprising an amplification medium (2), extending in longitudinal (Z), lateral (X) and vertical (Y) directions, and coupled to a laser oscillation structure comprising at least two resonant cavities (13, 14) extending in first (D1) and second (D2) directions which are different from the longitudinal direction (Z) of the active waveguide (1) and arranged in such a way as to permit the establishment of laser oscillations having at least two different relaxation oscillation frequencies.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IB 03/05041

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01S5/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
IPC 7 H01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 436 759 A (PATTERSON FRANK G ET AL) 25 July 1995 (1995-07-25) column 5, line 5-25; figures 2,3 column 9, line 14 -column 10, line 55 ---	1,4,5
A	US 6 347 104 B1 (DIJAILI SOL P ET AL) 12 February 2002 (2002-02-12) column 12, line 63 -column 13, line 45; figures 11A,11B --- -/--	1,4,5

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DOUSSIERE P ET AL: "CLAMPED GAIN TRAVELLING WAVE SEMICONDUCTOR OPTICAL AMPLIFIER FOR WAVELENGTH DIVISION MULTIPLEXING APPLICATIONS" PROCEEDINGS OF THE INTERNATIONAL SEMICONDUCTOR LASER CONFERENCE. MAUI, HAWAII, SEPT. 19 - 23, 1994, NEW YORK, IEEE, US, vol. CONF. 14, 19 September 1994 (1994-09-19), pages 185-186, XP000514864 ISBN: 0-7803-1755-6 the whole document</p> <p>-----</p>	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5436759	A	25-07-1995	NONE	
US 6347104	B1	12-02-2002	US 6577654 B1	10-06-2003